

Question #84845

Atomic nuclei consist of protons and neutrons, in the nucleus there are two types of interaction - nuclear and electrostatic. Protons are repelled by electrostatic force, protons and neutrons are attracted by nuclear force. The ${}^7\text{Li}$ nucleus contains 3 protons and 4 neutrons, so each proton can interact with several neutrons ($4/3=1.33$), and the force of nuclear interaction between protons and neutrons is stronger than the force of repulsion of protons. In the ${}^7\text{Be}$ nucleus, there is less than one neutron per proton ($3/4=0.75$), and the repulsive force between the protons becomes greater because the nucleus contains more than ${}^7\text{Li}$ neutrons, so the ${}^7\text{Li}$ nucleus is more stable than the ${}^7\text{Be}$ nucleus.

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